HURRICANE SANDY INCIDENT
OPERATIONAL PHASES
BAYWAY REFINERY – PHILLIPS 66
December 2012

This document is an outline for moving site response from an active recovery to passive recovery. Stakeholder signatures signify that the site was evaluated, and that each stakeholder concurs that the criteria for transition from Phase One to Phase Two, as laid out in this document, have been met; as it pertains to the Navigatable waterways.

This document is not to determine damage or injury to the environment, habitat, or natural resources. This document is not a guideline for final clean-up endpoints.

The USCG is engaged in oil and hazardous material response under Emergency Support Function #10 at PHILLIPS 66 BAYWAY REFINERY. The Unified Command is monitoring the Responsible Party led clean-up efforts at PHILLIPS 66 BAYWAY REFINERY to ensure that they conduct these operations in accordance with the Area Contingency Plan.

This document does not address targets covered by Emergency Support Function #3 funding.

Approved By:

FOSC – USCG:	Signature:	Date:
Stephen R. Miller		07 DEC 12
SOSC:	Signature:	Date:
Dan Potashnick	Dan Potashnick	12/7/12
RP: Hope Gray	Signature: H. J. Gray	Date: 12-7-12

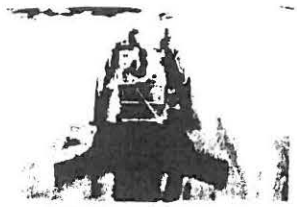
Cooperating agencies:

US EPA:	Signature:	Date:
Kelli Lucarino		12/7/12
DOI:	Signature:	Date:
CLAY STERN - USFWS	Clay Michael Stern	12/7/12
NOAA:	Signature:	Date:
	ED Levine	12/7/12

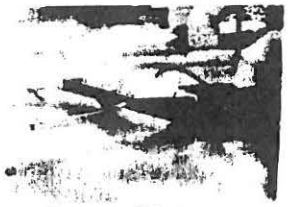
262461

Phase One: Active Recovery

- Floating oil in a thickness allowing for gross recovery by mechanical means, such as self-contained skimmers (e.g.: Marko skimmers) or vacuum truck assisted skimmers (e.g.: drum skimmers)



Marko skimmer



Drum skimmer

- If, in the determination of the equipment operator and the area supervisor, the thickness can not be enhanced by the use of hard boom such that the skimming operation is practical, a request will be made to the Incident Commander to move the site from Phase One to Phase Two. Upon agreement by the Incident Commander, with consultation with the state and federal On-Scene Coordinators (or their representatives), the area may be moved into Phase Two recovery.

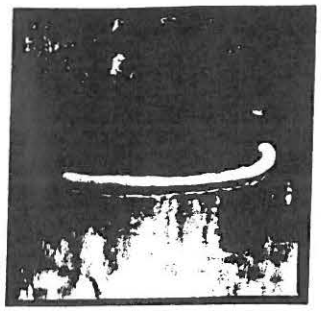
Phase Two: Passive Recovery

- Floating oil film in a thickness generally described as "sheen" and "rainbow" which cannot be concentrated to a thickness that permits practical mechanical recovery will be in a Phase Two status.

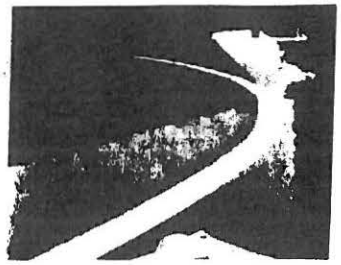
BONN AGREEMENT OIL APPEARANCE CODE

CODE	Description	Layer thickness interval (µm)	Litres per km^2
1	**Sheen (silvery/grey)**	**0.04 - 0.30**	**40 – 300**
2	**Rainbow**	**0.30 – 5.0**	**300 – 5000**
3	**Metallic**	**5.0 – 50**	**5000 – 50,000**
4	**Discontinuous true oil colour**	**50 – 200**	**50,000 – 200,000**
5	**Continuous true oil colour**	**200 – more than 200**	**200,000 – more than 200,000**

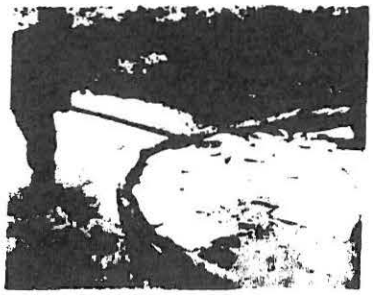
- Oil collection in Phase Two will be by means of synthetic absorbent materials. These materials include sorbent boom (so-called "sausage boom"), sorbent sweep and sorbent pads, but does not include so-called "loose" sorbent (without expressed permission from state and federal OSCs).



Sorbent Boom



Sorbent Sweep



Sorbent Pads

- Sorbent Use: Best Management Practices
  - Boom and sweep will be visually monitored on a schedule determined by the recovery rate of the material.
  - Only partially or fully oil saturated materials will be changed.
  - The location of deployed sorbent will be recorded until such time that the material is permanently removed from the impact area.
  - In waterways with current, boom and sweep with be supported, down current, with hard boom.
  - Sorbent pads will not be deployed without active and on-site maintenance at all times.
  - Sorbent pads will not be deployed in waterways with current, unless hard boom is deployed as a barrier.
  - All sorbent pads will be collected at the end of each day and will not be left unattended overnight.

Phase Three: Natural Attenuation

- Oil film or "sheen" is not observed emanating from the subject area after either two significant rain events or after a period of two weeks will be considered in Phase Three.
- In Phase Three, both hard boom and sorbent materials may be removed.
- Each area transitioning from Phase Two to Phase Three will be inspected and approved, in writing, by the state On-scene Coordinator or his/her representative, with concurrence of the US Coast Guard On-Scene Coordinator or his/her representative.

ICS 209 (Oil Spill) - Incident Status Summary

Incident:	Hurricane Sandy Response	**Prepared By:**	Evans, Phil at 11/15/2012 11:45
Period:	Period 18 (11/16/2012 06:00 - 11/22/2012 06:00	**Version Name:**	11/15/2012 @ 11:30 - PGE

Spill Status (Estimated)

Source Status:
- (•) Secured
- ( ) Unsecured

Remaining potential: None

Rate of spillage: N/A

Amounts below measured in: barrel(s)

	Last 24 Hours	Total
Total Volume Spilled	0	185

Mass Balance (Estimated*)

Morses Creek & Reservoir	0	30
Refinery Land	0	30
Cemetary Land	0	90
Domestic Trade Reservoir	0	5
310 Tank	0	30
	0	0
	0	0

Total spilled product accounted for: 185

Waste Management (Estimated)

Type	Recovered	Stored	Disposed
Morses Creek & Res	32	0	0
Refinery Land	28.5	0	0
Cemetary Land	88.5	0	0
Domestic Trade	0	0	0
310 Tank	2	0	0
TOTAL	151		

Shoreline Impacts

Degree of Oiling	Affected	Cleaned	Remaining to be Cleaned
Very Light	0	0	0
Light	0	0	0
Medium	0	0	0
Heavy	0	0	0
Total	0	0	0

Wildlife Impacts

Type	Captured	Cleaned	Released	DOA	Died in Facility	
					Euth.	Other
Bird	252	114	12	102	36	
Mammal	9	0	0	9	0	
Reptile	38	36	13	2		
Fish						
Other (cat)	1			1		
Total	300	150	25	114	36	0

Safety Status

Type	Last 24 Hours	Total
Responder Injury	0	10
Public Injury	0	0
Other	0	0

Equipment Resources

Type	Ordered	Available /Staged	Assigned	Out-Of-Service
Boom	0	1,000	18,800	
Crane			2	
Vacuum Truck	0	0	20	
Vessel	0	1	11	
Lighting		8	33	
Equipment: Heavy	2	1	2	
Skimmer		8	13	
Frac Tank		2	10	
Roll Off Box			100	

Personnel Resources

Organization	People in the Field	People in Cmd. Post	Total People On Scene
Federal	0	0	0
State/Prov.	0	0	0
Local	0	0	0
RP	2	17	19
Clean Harbors & Subs	75	2	77
All Other Contractors	43	3	46
			0
			0
			0

Total Response Personnel: 142

Special Notes

*Mass Balance estimates are based on common rules of thumb for natural and chemical dispersion, evaporation, skimming and burning efficiency.

ICS 209 (Oil Spill) - Incident Status Summary

Incident:	Hurricane Sandy Response	**Prepared By:**	Evans, Phil at 11/13/2012 10:08
Period:	Period 15 "Working" (11/13/2012 06:00 - 11/14/2	**Version Name:**	11/13/2012 @ 11:30 - PGE

Spill Status (Estimated)

Source Status:
- (•) Secured
- ( ) Unsecured

Remaining potential: None

Rate of spillage: N/A

Amounts below measured in: barrel(s)

	Last 24 Hours	Total
Total Volume Spilled	0	185

Mass Balance (Estimated*)

Morses Creek & Reservoir	0	30
Refinery Land	0	30
Cemetary Land	0	90
Domestic Trade Reservoir	0	5
310 Tank	0	30
	0	0
	0	0

Total spilled product accounted for: 185

Waste Management (Estimated)

Type	Recovered	Stored	Disposed
Morses Creek & Res	31	0	0
Refinery Land	29	0	0
Cemetary Land	86	0	0
Domestic Trade	0	0	0
310 Tank	2	0	0
TOTAL	148		

Shoreline Impacts

Degree of Oiling	Affected	Cleaned	Remaining to be Cleaned
Very Light	0	0	0
Light	0	0	0
Medium	0	0	0
Heavy	0	0	0
Total	0	0	0

Wildlife Impacts

Type	Captured	Cleaned	Released	DOA	Died in Facility	
					Euth.	Other
Bird	252	114	0	102	36	
Mammal	13	3	0	9	1	
Reptile	38	36	0	2		
Fish						
Other	1			1		
Total	304	153	0	114	37	0

Safety Status

Type	Last 24 Hours	Total
Responder Injury	0	10
Public Injury	0	0
Other	0	0

Equipment Resources

Type	Ordered	Available /Staged	Assigned	Out-Of-Service
Boom	0	1,000	18,800	
Crane			2	
Vacuum Truck	0	4	21	
Vessel	0	1	11	
Lighting		13	37	
Equipment: Heavy	2	1	2	
Skimmer		11	21	
Frac Tank		2	10	
Roll Off Box			100	

Personnel Resources

Organization	People in the Field	People in Cmd. Post	Total People On Scene
Federal	0	0	0
State/Prov.	0	0	0
Local	0	0	0
RP	2	14	16
MSRC/Clean Harbors & Subs	118	3	121
All Other Contractors	26	3	29
			0
			0
			0

Total Response Personnel: 166

Special Notes

*Mass Balance estimates are based on common rules of thumb for natural and chemical dispersion, evaporation, skimming and burning efficiency.

ICS 209 (Oil Spill) - Incident Status Summary

Incident:	Hurricane Sandy Response	**Prepared By:**	Lam, Pat at 11/8/2012 10:23
Period:	Period 10 "Working" (11/8/2012 06:00 - 11/9/201	**Version Name:**	11/8/2012 @ 0945 - PGE

Spill Status (Estimated)

Source Status:
- (•) Secured
- ( ) Unsecured

Remaining potential: None

Rate of spillage: N/A

Amounts below measured in: barrel(s)

	Last 24 Hours	Total
Total Volume Spilled	0	185

Mass Balance (Estimated*)

Morses Creek & Reservoir	0	30
Refinery Land	0	30
Cemetary Land	0	90
Domestic Trade Reservoir	0	5
310 Tank	0	30
	0	0
	0	0

Total spilled product accounted for: 185

Waste Management (Estimated)

Type	Recovered	Stored	Disposed
Morses Creek & Res	28	0	0
Refinery Land	22	0	0
Cemetary Land	67	0	0
Domestic Trade	0	0	0
310 Tank	1	0	0
TOTAL	118		

Shoreline Impacts

Degree of Oiling	Affected	Cleaned	Remaining to be Cleaned
Very Light	0	0	0
Light	0	0	0
Medium	0	0	0
Heavy	0	0	0
Total	0	0	0

Wildlife Impacts

Type	Captured	Cleaned	Released	DOA	Died in Facility	
					Euth.	Other
Bird	229	99	0	94	36	
Mammal	6			6		
Reptile	31	27	0	4		
Fish						
Other	1			1		
Total	267	126	0	105	36	0

Safety Status

Type	Last 24 Hours	Total
Responder Injury	0	4
Public Injury	0	0
Other	0	0

Equipment Resources

Type	Ordered	Available /Staged	Assigned	Out-Of-Service
Boom	12,000	1,000	11,800	
Crane			2	
Vacuum Truck	1	2	38	
Vessel	2	4	13	
Lighting		2	48	
Equipment: Heavy			3	
Skimmer		17	27	
Frac Tank			16	
Roll Off Box			104	

Personnel Resources

Organization	People in the Field	People in Cmd. Post	Total People On Scene
Federal	0	0	0
State/Prov.	0	0	0
Local	0	0	0
RP	15	30	45
Contract Personnel	325	7	332
Volunteers			0
			0
			0
			0

Total Response Personnel: 377

Special Notes

Observed 2 Oiled Deer (1 Buck and 1 Doe) but was unable to capture or relocate. Antler Ridge called in, 11/3/2012, surveyed herd.
Other: Domestic Cat
Injuries 1) cut finger 2) finger abrasion 3) 11-6-2012 Muscle strain while picking up bags and debris (first-aid) 4) 11-7-2012 Puncture wound while picking up debris with hands (first aid)

*Mass Balance estimates are based on common rules of thumb for natural and chemical dispersion, evaporation, skimming and burning efficiency.

ICS 209 (Oil Spill) - Incident Status Summary

Incident:	Hurricane Sandy Response	**Prepared By:**	Lam, Pat at 11/6/2012 17:40
Period:	Period 9 (11/7/2012 06:00 - 11/8/2012 06:00)	**Version Name:**	11/6/2012 @ 1730 - PGE

Spill Status (Estimated)

Source Status:
- (•) Secured
- ( ) Unsecured

Remaining potential: None

Rate of spillage: N/A

Amounts below measured in: barrel(s)

	Last 24 Hours	Total
Total Volume Spilled	0	185

Mass Balance (Estimated*)

Morses Creek & Reservoir	0	30
Refinery Land	0	30
Cemetary Land	0	90
Domestic Trade Reservoir	0	5
310 Tank	0	30
	0	0
	0	0

Total spilled product accounted for: 185

Waste Management (Estimated)

Type	Recovered	Stored	Disposed
Morses Creek & Res	25	0	0
Refinery Land	18	0	0
Cemetary Land	57	0	0
Domestic Trade	0	0	0
310 Tank	1	0	0
TOTAL	101		

Shoreline Impacts

Degree of Oiling	Affected	Cleaned	Remaining to be Cleaned
Very Light	0	0	0
Light	0	0	0
Medium	0	0	0
Heavy	0	0	0
Total	0	0	0

Wildlife Impacts

Type	Captured	Cleaned	Released	DOA	Died in Facility	
					Euth.	Other
Bird	220	92	0	92	36	
Mammal	5			5		
Reptile	26	23	0	3		
Fish						
Other	1			1		
Total	252	115	0	101	36	0

Safety Status

Type	Last 24 Hours	Total
Responder Injury	0	0
Public Injury	0	0
Other	0	0

Equipment Resources

Type	Ordered	Available /Staged	Assigned	Out-Of-Service
Boom	0	800	9,000	
Crane			2	
Vacuum Truck	4	0	56	
Vessel		6	10	
Lighting	10	11	29	
Equipment: Heavy			3	
Skimmer		18	26	
Frac Tank			16	
Roll Off Box	80		24	

Personnel Resources

Organization	People in the Field	People in Cmd. Post	Total People On Scene
Federal	0	0	0
State/Prov.	0	0	0
Local	0	0	0
RP	15	37	52
Contract Personnel	424	5	429
Volunteers			0
			0
			0
			0

Total Response Personnel: 481

Special Notes

Observed 2 Oiled Deer (1 Buck and 1 Doe) but was unable to capture or relocate. Antler Ridge called in, 11/3/2012, surveyed herd.
Other: Domestic Cat

*Mass Balance estimates are based on common rules of thumb for natural and chemical dispersion, evaporation, skimming and burning efficiency.

ICS 209 (Oil Spill) - Incident Status Summary

Incident:	Hurricane Sandy Response	**Prepared By:**	Lam, Pat **at** 11/6/2012 11:22
Period:	Period 8 "Working" (11/6/2012 06:00 - 11/6/2012	**Version Name:**	11/6/2012 @ 1130 - PGE

Spill Status (Estimated)

Source Status:
- (•) Secured
- ( ) Unsecured

Remaining potential: None

Rate of spillage: N/A

Amounts below measured in: barrel(s)

	Last 24 Hours	Total
Total Volume Spilled	0	185

Mass Balance (Estimated*)

Morses Creek & Reservoir	0	30
Refinery Land	0	30
Cemetary Land	0	90
Domestic Trade Reservoir	0	5
310 Tank	0	30
	0	0
	0	0

Total spilled product accounted for: 185

Waste Management (Estimated)

Type	Recovered	Stored	Disposed
Morses Creek & Res	25	0	0
Refinery Land	18	0	0
Cemetary Land	57	0	0
Domestic Trade	0	0	0
310 Tank	1	0	0
TOTAL	101		

Shoreline Impacts

Degree of Oiling	Affected	Cleaned	Remaining to be Cleaned
Very Light	0	0	0
Light	0	0	0
Medium	0	0	0
Heavy	0	0	0
Total	0	0	0

Wildlife Impacts

Type	Captured	Cleaned	Released	DOA	Died in Facility	
					Euth.	Other
Bird	200	86	0	78	36	
Mammal	2			2		
Reptile	18	18	0	0		
Fish						
Other	1			1		
Total	221	104	0	81	36	0

Safety Status

Type	Last 24 Hours	Total
Responder Injury	0	0
Public Injury	0	0
Other	0	0

Equipment Resources

Type	Ordered	Available /Staged	Assigned	Out-Of-Service
Boom	0	800	9,000	
Crane			2	
Vacuum Truck	4	0	56	
Vessel		6	10	
Lighting	10	11	29	
Equipment: Heavy			3	
Skimmer		18	26	
Frac Tank			16	
Roll Off Box	80		24	

Personnel Resources

Organization	People in the Field	People in Cmd. Post	Total People On Scene
Federal	0	0	0
State/Prov.	0	0	0
Local	0	0	0
RP	15	37	52
Contract Personnel	424	5	429
Volunteers			0
			0
			0
			0

Total Response Personnel: 481

Special Notes

Observed 2 Oiled Deer (1 Buck and 1 Doe) but was unable to capture or relocate. Antler Ridge called in, 11/3/2012, surveyed herd.
Other: Domestic Cat

*Mass Balance estimates are based on common rules of thumb for natural and chemical dispersion, evaporation, skimming and burning efficiency.

ICS 209 (Oil Spill) - Incident Status Summary

Incident:	Hurricane Sandy Response	**Prepared By:**	Lam, Pat at 11/4/2012 15:44
Period:	Period 6 "Working" (11/4/2012 06:00 - 11/5/2012	**Version Name:**	11/4/2012 @ 1530 - PGE

Spill Status (Estimated)

Source Status:
- (•) Secured
- ( ) Unsecured

Remaining potential: None

Rate of spillage: N/A

Amounts below measured in: barrel(s)

	Last 24 Hours	Total
Total Volume Spilled	0	185

Mass Balance (Estimated*)

Morses Creek & Reservoir	0	30
Refinery Land	0	30
Cemetary Land	0	90
Domestic Trade Reservoir	0	5
310 Tank	0	30
	0	0
	0	0

Total spilled product accounted for: 185

Waste Management (Estimated)

Type	Recovered	Stored	Disposed
Morses Creek & Res	20	0	0
Refinery Land	12	0	0
Cemetary Land	35	0	0
Domestic Trade	0	0	0
310 Tank	1	0	0
TOTAL	68		

Shoreline Impacts

Degree of Oiling	Affected	Cleaned	Remaining to be Cleaned
Very Light	0	0	0
Light	0	0	0
Medium	0	0	0
Heavy	0	0	0
Total	0	0	0

Wildlife Impacts

Type	Captured	Cleaned	Released	DOA	Died in Facility	
					Euth.	Other
Bird	195	83	0	76	22	
Mammal	2			2		
Reptile	14	14	0	0		
Fish						
Other	1			1		
Total	212	97	0	79	22	0

Safety Status

Type	Last 24 Hours	Total
Responder Injury	0	0
Public Injury	0	0
Other	0	0

Equipment Resources

Type	Ordered	Available /Staged	Assigned	Out-Of-Service
Boom	0	1,200	8,600	
Crane			2	
Vacuum Truck	0	0	27	
Vessel		2	9	
Lighting		13	23	
Equipment: Heavy			3	
Skimmer		27	13	
Frac Tank			16	
Roll Off Box	84		23	

Personnel Resources

Organization	People in the Field	People in Cmd. Post	Total People On Scene
Federal	0	0	0
State/Prov.	0	0	0
Local	0	0	0
RP	15	37	52
Contract Personnel	425	4	429
Volunteers			0
			0
			0
			0

Total Response Personnel: 481

Special Notes

Observed 2 Oiled Deer (1 Buck and 1 Doe) but was unable to capture or relocate. Antler Ridge called in, 11/3/2012, surveyed herd.
Other: Domestic Cat

*Mass Balance estimates are based on common rules of thumb for natural and chemical dispersion, evaporation, skimming and burning efficiency.

figure 1
APPROXIMATE EXTENT OF VISIBLE OIL
ROSE HILL CEMETERY
792 EAST EDGAR ROAD
Linden, New Jersey

80204-00(LAMO001)GN-BU001 NOV 06/2012

Micro-Blaze®
Microbial Products

www.micro-blaze.com
800-626-6598
713-691-6468

Application Rates for Micro-Blaze® Emergency Liquid Spill Control

For pure product spills [no water]: Determine amount of contamination by volume. 10% of that volume is the amount of Micro-Blaze® Emergency Liquid Spill Control concentrate to apply, diluted. (example: 350 gallons of pure product contamination, have 35 gallons of concentrate.) Apply diluted to the specific percentage rate per contamination parameters (age of spill, type of contaminant, volatility, viscosity, etc.) *Apply it forcefully to pure product spills with good pressure,* so the oils will be thoroughly mixed with the Micro-Blaze® solution. Take care not to splash spill onto nearby equipment, personnel, etc.

For contaminated slurries, tanks with product and water, etc.: Determine total volume of contamination, including water. Then determine a general volume of the contaminant in the slurry. 10% of the contamination volume is the amount of Micro-Blaze® Emergency Liquid Spill Control to apply. Dilute it as needed, taking into consideration the present volume of water already in the slurry.

Example: you have 2500 gallons of slurry to remediate. You determine approximately 500 gallons is contamination and 1200 gallons is water, with the remainder dirt or inorganic material. You will dilute 50 gallons of Micro-Blaze® Emergency Liquid Spill Control to a 3% solution. Since you already have 1200 gallons of water, you will need to add 465 gallons more to create a 3% solution in your slurry. [50 gallons / 3% = 1665 gallons water, less 1200 gallons = 465 gallons to add].

For contaminated dirt: The general "rule of thumb" is to determine total cubic yards affected. For every 10 cubic yards of dirt, you will need to apply one gallon of Micro-Blaze® Emergency Liquid Spill Control, diluted. Keep the project moist – microbes need moisture to work.

Dilution rates: Usually, heavier weight oils like motor oils and hydraulic fluids use a 3% solution of Micro-Blaze® Emergency Liquid Spill Control mixed with water. *Hint:* for every 10 gallons of concentrate, dilute to a 3% solution with 333 gallons of water (10 gallons / 3% = 333 gallons water). *More is not better* – 3% allows the water to help cut up the hydrocarbon molecules.

The LELs of lighter weight and volatile fluids can be knocked down with an application of Micro-Blaze® Emergency Liquid Spill Control in a 6% solution.(Dilute every 10 gallons of concentrate with 167 gallons of water; see equation above.)

**CARE SHOULD BE EXERCISED when applying Micro-Blaze® solutions to spills. Boom off spill to prevent run-off. Emergency responders should wear appropriate personal protective equipment per local regulatory protocols and guidelines.

For rates of application for specific situations, please contact your Micro-Blaze® distributor or contact Verde Environmental's toll-free number: 800 / 626 –6598 or salesmicro@micro-blaze.com.

State of New Jersey

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BOB MARTIN
Commissioner

Bureau of Case Management
401-05F
P.O. Box 420
Trenton, NJ 08625-0420
Phone #: 609-633-1455
Fax #: 609-633-1439

November 7, 2012

Deborah LaMond
Program Manager
Phillips 66
1400 Park Avenue, Room BOB S-206
Linden, NJ 07036

Re: Discharge to Ground Water Authorization
Phillips 66 Bayway Refinery
Linden City, Union County
Program Interest Number: 008282

Dear Ms. LaMond,

This New Jersey Pollutant Discharge Elimination System/Discharge to Ground Water (NJPDES/DGW) authorization is hereby issued under the authority of the New Jersey Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq. and the implementing regulations, N.J.A.C. 7:14A-1 et seq. N.J.A.C. 7:14A-7.5 authorizes the discharge described below to treat a residual oil film associated with a waste oil discharge caused by storm surge from Hurricane Sandy. Pursuant to N.J.A.C. 7:14A-22.4(b)5, a Treatment Works Approval is not required for discharges to ground water authorized pursuant to N.J.A.C. 7:14A-7.5 and a licensed operator is not required pursuant to N.J.A.C. 7:10A-1.10(c)1. The discharge approved through this authorization is a spray application of a microbial formulation. The discharge shall be conducted as proposed in the Discharge to Ground Water Permit-by-Rule Authorization Request, dated November 6, 2012, and as clarified by email dated November 7, 2012. Consistent with N.J.A.C. 7:14A-7.5(b)3ii, the authorized discharge to ground water is not to exceed 180 calendar days. Be advised that the time period for the discharge begins on the day the discharge first occurs and not the date this discharge authorization letter is issued or received. A description of the authorized discharge is provided in Section I below. The authorized discharge shall comply with the requirements of Sections II, III, and IV, farther below.

I. DISCHARGE DESCRIPTION

The authorized discharge is for a single discharge event spanning roughly a two day period in which water will be mixed with 350 gallons of Micro-Blaze® to form a 3% Micro-Blaze® solution. The solution will be applied with hand sprayers to saturate the residual oil film, which covers approximately a six acre area.

The Micro-Blaze®, which consists of spore forming cultures, alcohol ethoxylate, urea, dipotassium phosphate, diammonium phosphate, tetrasodium ethylenediaminetetraacetate, arylene gamma fragrance, and water, will bioremediate the residual oil film. A remedial investigation will be conducted to evaluate impacts from the release at a future date.

II. SYSTEM OPERATION AND MONITORING

Any sampling performed shall be conducted consistent with the methods specified in the most current edition of the Department's Field Sampling Procedures Manual, unless otherwise approved by the Department.

The discharge shall not occur within 10 feet of any surface water body.

The treatment area shall be monitored for evidence of malfunction. Said evidence shall include, but not be limited to: run-off of the solution and ponding.

The discharge shall not have a long term adverse impact on ground water quality, create an unpermitted discharge to any surface water of the State, create a persistent standing, ponded or surface-flowing fluid condition, or cause adverse vapor intrusion to occur.

Pursuant to N.J.A.C. 7:14A-6.2(a)5 and 11, if free product in ground water, vapors or odors in any building, or any malfunction resulting in a potential impact to a receptor are detected and are a result of the discharge authorized by this approval, the discharger will immediately: (1) cease the discharge or make necessary adjustments to the application rate; and (2) repair or mitigate any negative impacts.

III. GROUND WATER MONITORING REQUIREMENTS

Because the application of the Micro-Blaze® is intended to only saturate the residual surficial oil film, no ground water monitoring requirements are associated with this discharge authorization.

IV. REPORTING REQUIREMENTS AND INFORMATION SUBMITTALS

All information associated with the discharge, including a summary of the discharge, volumes discharged, days of discharge, and a summary of any issues encountered, etc., shall be included in a Progress Report and sent to:

Anne Pavelka, PG, CHMM
Case Manager
New Jersey Department of Environmental Protection
Bureau of Case Management
Mail Code 401-05F
P.O. Box 420
Trenton, NJ 08625-0420

The record keeping requirements of N.J.A.C. 7:14A-6.6 are applicable to monitoring information resulting from this discharge authorization. Pursuant to N.J.A.C. 7:14A-6.8(e), the results for any sampling done as a result of this discharge, but that is not specified in this authorization, must also be reported as specified above. Any malfunctions or non-compliance should be reported telephone within 24 hours to Anne Pavelka of the Bureau of Case Management at (609) 292-3007, email at Anne.Pavelka@dep.state.nj.us, and in writing within 7 days to the above address using the subject line "DGW Permit-by-Rule Compliance Report."

If you have any questions or concerns associated with this Discharge Authorization, please contact Anne Pavelka of the Bureau of Case Management at (609) 292-3007.

Sincerely,
Anne Pavelka for
Maurice Migliarino
Maurice Migliarino, Section Chief
Bureau of Case Management

c: Richard Snyder, LSRP, Conestoga-Rovers & Associates
Sam Ezekwo, USEPA